Docket No. 10014406-3

Remarks

This Amendment is responsive to the Office Action of **November 2, 2005**. Reexamination and reconsideration of **claims 1-28** is respectfully requested.

Summary of The Office Action

Claims 8, 14, and 20 stand allowed and reasons for allowance were indicated in the previous office action mailed on 11/16/04.

Claim 27 recites the limitation "each fire pulse" on line 2 without sufficient antecedent basis for this limitation in the claim due to lacking of defining the comprising of a plurality of firing pulses.

Claims 1-2, 9-10, 15-16, 21-22, 24, 26-27 were rejected under 35 U.S.C. § 102(a) as being anticipated by Wade et al. (US 6,290,333).

Claims 4, 6-7, 11-13, 17-19, 23, and 25 were rejected under 35 U.S.C. 103(a) as being unpatentable over Wade et al. (US 6,290,333) in view of Saul (EP 1080898 A2).

Claims 3, 28 were rejected under 35 U.S.C. 103(a) as being unpatentable over Wade et al. (US 6,290,333) in view of Shiraishi et al. (US 6,186,611).

Claim 5 was rejected under 35 U.S.C. 103(a) as being unpatentable over Wade et al. (US 6,290,333) in view of Saul (EP 1080898 A2), as applied to claim 4, and further in view of Shiraishi et al. (US 6,186,611).

Informalities in the Claims

Claim 27 has been amended to correct the insufficient antecedent basis as indicated by the Examiner. Claim 27 should now comply with 35 U.S.C. §112, second paragraph, requirements.

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The Present Claims Patentably Distinguish Over the References of Record

Independent Claim 1

Claim 1 was rejected under 35 U.S.C. § 102(a) as being anticipated by Wade et al. (US 6,290,333).

The Office Action (on page 3) cites Wade, Figure 2B and the illustrated firing pulses 1-N as teaching the claimed addressable select logic and coupling selected firing resistors in the same zone to a same fire pulse. Applicant respectfully submits that Figure 3 of Wade provides the details of the printhead die 22 circuit shown in Figure 2B and thus provides a better understanding of the teachings of Wade. The firing pulses 1-N of Figure 2B seem to be identified as "firing pulses 94" by Wade in column 6, lines 46-65. However, there is no other reference to the firing pulses 94 and this section of Wade does not describe any details of their configuration. The next paragraph of Wade begins to explain Figure 3, which appears to be a more detailed disclosure but it uses different reference numbers.

In particular, Figure 3 "shows a firing and energy control circuit 36 of a representative quadrant of the die..." (column 7, lines 1-2). A quadrant is one group of resistors 44 like one ink ejection element group 90 from Figure 2B. As shown in Figure 3, each resistor 44 is connected to a firing switch 82, and each firing switch 82 is controlled by a separate and individual firing pulse signal from a fire pulse modulator (FPM) 84 (see Figure 3, and column 7, line 65 to column 8 line 3). Here Wade states, "The fire pulse modulator...outputs a firing signal to each selected firing switch." (column 8, line 1-3). Thus, each resistor 44 in a group is coupled to a different fire pulse signal line from the FPM 84.

Therefore, Wade fails to teach or suggest a logic where selected firing resistors in the same zone are coupled to the same fire pulse as recited in claim 1. The rejection is thus not supported and should be withdrawn.

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Thus, claim 1 patentably distinguishes over the references, individually or in combination, and is in condition for allowance. Accordingly, dependent **claims 2-7** also patentably distinguish over the references and are in condition for allowance.

Independent Claim 9

Claim 9 recites addressable select logic responsive to a select address to couple multiple fire pulses to the firing resistors in the zones so that selected firing resistors in the same zone are coupled to a same fire pulse, wherein the same fire pulse controls an initiation and a duration in which the selected firing resistors in the same zone are coupled to the internal power supply path to thereby control fluid ejection from the nozzles in the same zone corresponding to the selected firing resistors.

For the reasons described above, Wade fails to teach or suggest a logic where selected firing resistors in the same zone are coupled to the same fire pulse as recited in claim 9 in combination with the other elements of claim 9. Therefore, the rejection is not supported and should be withdrawn

Since claim 9 recites features not disclosed by the references, claim 9 patentably distinguishes over the references. Accordingly, dependent **claims 10-13** also patentably distinguish over the references and are in condition for allowance.

Independent Claim 15

Claim 15 recites coupling multiple fire pulses so that selected firing resistors in the same zone are coupled to a same fire pulse, and controlling, with the same fire pulse, an initiation and a duration in which the selected firing resistors in the same zone are coupled to the internal substantially constant voltage to thereby control fluid ejection from the nozzles in the same zone corresponding to the selected firing resistors.

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As explained above, Wade teaches that each firing resistor 44 is coupled to a separate fire pulse line (Figure 3). Thus, the recited features of claim 15 are not taught or suggested by Wade and the rejection is not supported.

Therefore, claim 15 patentably distinguishes over the references. Accordingly, dependent **claims 16-19** also patentably distinguish over the references and are in condition for allowance.

Independent Claim 21

Claim 21 recites, in combination with other elements, a logic responsive to a select address to couple multiple fire pulses to the firing resistors in the zones so that selected firing resistors in the first zone are coupled to a same fire pulse, wherein the same fire pulse controls an initiation and a duration in which the selected firing resistors in the first zone are coupled to the internal power supply path...

As explained above, Wade teaches that each resistor 44 in a group is coupled to a different fire pulse signal line from the FPM 84 (Figure 3, and column 8, lines 1-3).

Therefore, Wade fails to teach or suggest a logic where selected firing resistors in the first zone are coupled to the same fire pulse as recited in claim 21. The rejection is thus not supported and should be withdrawn.

Since claim 21 recites features not disclosed or suggested by the references, claim 21 patentably distinguishes over the references. Accordingly, dependent **claims 22-23** also patentably distinguish over the references and are in condition for allowance.

Independent Claim 24

Claim 24 recites coupling, based on the select address, multiple fire pulses to firing resistors located in zones so that selected firing resistors in a same zone are coupled to a same fire pulse, and controlling, with the same fire pulse, an initiation and a duration in which selected

firing resistors in the first zone are coupled to an internal substantially constant voltage to thereby control fluid ejection from the nozzles in the same zone corresponding to the selected firing resistors.

Wade teaches that each resistor 44 in a group is coupled to a different fire pulse signal line from the FPM 84 (Figure 3, and column 8, lines 1-3). Therefore, Wade fails to teach or suggest the recited coupling and controlling limitations of method claim 24. The rejection is thus not supported and should be withdrawn.

As such, claim 24 patentably distinguishes over the references of record and is in condition for allowance, including dependent claim 25.

Independent Claim 26

Claim 26 recites at least one multiplexer responsive to a select address to couple a first fire pulse to a first plurality of firing resistors in a first zone, so that a first plurality of selected firing resistors in the first zone are coupled to the first fire pulse, wherein the first fire pulse controls an initiation and a duration in which the first plurality of selected firing resistors in the first zone are coupled to the internal power supply path to thereby control fluid ejection from the nozzles in the first zone corresponding to the selected firing resistors.

Wade teaches that each resistor 44 in a group is coupled to a different fire pulse signal line from the FPM 84 (Figure 3, and column 8, lines 1-3). Therefore, Wade fails to teach or suggest a multiplexer where a first plurality of selected firing resistors in the first zone are coupled to the first fire pulse as recited in claim 26. The rejection is thus not supported and should be withdrawn.

Since claim 26 recites features not taught or suggested by the references, alone or in combination, claim 26 patentably distinguishes over the references. Accordingly, dependent claims 27-28 also patentably distinguish over the references and are in condition for allowance.

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The 35 U.S.C. 103 Rejections

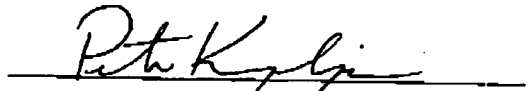
All of the 103 rejections apply to dependent claims and are based on Wade in combination with other references. It has been shown above that Wade teaches a different configuration of a fluid ejection device and fails to teach or suggest the independent claims. It then follows that Wade also fails to teach or suggest the limitations of the dependent claims and fails to support the 103 rejections. The other references combined with Wade fail to cure the shortcomings of Wade and thus fail to support a proper 103 rejection of the claims.

For at least these rejections, all dependent claims also patentably distinguishes over the references of record, alone or in combination, and are in condition for allowance.

Conclusion

For the reasons set forth above, **claims 1-28** patentably and unobviously distinguish over the references of record and are now in condition for allowance. An early allowance of all claims is earnestly solicited.

Respectfully submitted,



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